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海洋性プランクトン群の進化と生態についての研究

Research in evolution and ecology of marine planktonic communities

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研究成果概要

My current projects are as follow:

1. Assessing the diversity and deciphering the roles of marine eukaryotic viruses in epipelagic oceans using environmental genomics and contextual data.
2. Understanding the evolutionary history of large nucleocytoplasmic DNA viruses via genomic analysis of in-lab isolated viruses.
3. Study of standing genomic variation in the phytoplankton *Triparma laevis*: what mechanisms shape this variation and how this variation channels future evolutionary changes?
4. Understand the processes that led to functional diversification of their phosphatidylinositol phosphate 5-kinases in core eudicotyledons.

To conduct these research projects I make use of the SuperComputer System of Institute for Chemical Research, Kyoto University. I am using various software to reconstruct phylogenies (phylobayes, RaXML, ete3 package), to assemble genomes (Spades and ABySS), to trim and map short read sequences (trimmomatic, bowtie, bwa), to perform sequence alignment and manipulation (Diamonds, Blast, Seqtk, Emboss) and to run my own scripts for parsing and downstream analysis.

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